

CURRENT LISTING OF CLAIMS

This listing of claims represents the claims as they are presently pending.

1-66. (canceled)

67. (previously presented) A method of removing a film of deposited metal material, comprising:

(a) providing a substrate, wherein the substrate has a first surface and an opposing second surface, wherein one of the surfaces faces upward the other surface faces downward, and further wherein the substrate has the film of deposited metal material on at least the first surface and a portion of unwanted film of deposited material on the second surface; and

(b) rotating the substrate while simultaneously:

delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the film of the first surface; and

delivering a dissolving fluid to the second surface without delivering the dissolving fluid to the first surface, thereby removing the material from at least the second surface.

68. (previously presented) The method of claim 67, wherein the first surface faces upward and the second surface faces downward and delivering the rinse onto the first surface at a greater flow rate compared to a flow rate of the dissolving fluid delivered onto the second surface.

69. (previously presented) The method of claim 68, wherein the rinse fluid comprises deionized water and the dissolving fluid comprises an acid.

70. (previously presented) The method of claim 69, wherein the metal material comprises copper and the acid comprises hydrochloric acid.

71. (previously presented) The method of claim 67, wherein the first surface faces downward and second surface faces upward and delivering the rinse onto the first surface at a greater flow rate compared to a flow rate of the dissolving fluid delivered onto the second surface.

72. (previously presented) The method of claim 67, wherein delivering a rinse fluid and delivering a dissolving fluid occurs independently of mechanical scrubbing.

73. (previously presented) The method of claim 67, further comprising dissolving at least a portion of any film deposited on an edge of the substrate.

74. (previously presented) The method of claim 67, further comprising dissolving at least a portion of the film deposited in an edge exclusion zone of the second surface.

75. (previously presented) A method of removing a metal material deposited on the front side of a substrate and at least a portion of a back side of the substrate, comprising:

(a) directing a non-etchant fluid onto the material deposited on the front side to substantially prevent dissolution of material on the front side; while simultaneously

(b) dissolving at least a portion of the material deposited on the backside without dissolving the material on the front side.

76. (previously presented) The method of claim 75, wherein directing the fluid onto the material comprises using a chamber adapted to spin and rinse the substrate.

77. (previously presented) The method of claim 75, further comprising processing the substrate with a chamber adapted to spin and rinse the substrate while in-situ dissolving the portion of the deposited material from the backside using an acid.

78. (previously presented) The method of claim 75, further comprising dissolving material deposited on an edge of the substrate.

79. (previously presented) The method of claim 75, further comprising dissolving the deposited material in an edge exclusion zone on the backside of substrate.

80. (previously presented) The method of claim 75, wherein directing the fluid onto the material on the front side comprises rinsing the material on the front side.

81. (previously presented) The method of claim 80, further comprising substantially preventing dissolution of the film on the front side by directing the rinsing fluid onto the front side at a greater flow rate compared to a flow rate of the dissolving fluid directed onto the backside.

82. (previously presented) A method of removing a film of deposited metal material, comprising:

(a) providing a substrate, wherein the substrate has a first surface and an opposing second surface, wherein one of the surfaces faces upward the other surface faces downward, and further wherein the substrate has the film of deposited metal material on at least the first surface and a portion of unwanted film of deposited material on the second surface; and

(b) providing means for, rotating the substrate while simultaneously:

delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the film on the first surface; and

delivering a dissolving fluid to the second surface without delivering the dissolving fluid to the first surface, thereby removing the material from at least the second surface.

83. (previously presented) A method of removing a metal material deposited on the front side of a substrate and at least a portion of a back side of the

substrate, comprising simultaneously:

(a) steps for directing a non-etchant fluid onto the material deposited on the front side to substantially prevent dissolution of material on the front side; and

(b) steps for dissolving at least a portion of the material deposited on the backside without dissolving the material on the front side.

84. (canceled)

85. (new) A method of removing a film of deposited metal material, comprising:

(a) providing a substrate, wherein the substrate has a first surface and a second surface, wherein one of the surfaces faces upward the other surface faces downward, and further wherein the substrate has the film of deposited metal material on at least the first surface and a portion of unwanted film of deposited material on the second surface; and

(b) rotating the substrate while simultaneously:

delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the film of the first surface; and

delivering a dissolving fluid to the second surface without delivering the dissolving fluid to the first surface, thereby removing the material from at least the second surface.

86. (new) The method of claim 85, wherein the rinse fluid comprises deionized water and the dissolving fluid comprises an acid.

87. (new) The method of claim 85, wherein the metal material comprises copper and the acid comprises hydrochloric acid.

88. (new) The method of claim 85, wherein delivering a rinse fluid and delivering a dissolving fluid occurs independently of mechanical scrubbing.

89. (new) The method of claim 85, further comprising dissolving at least a portion of any film deposited on an edge of the substrate.

90. (new) The method of claim 85, further comprising dissolving at least a portion of the film deposited in an edge exclusion zone of the second surface.

91. (new) A method of removing a metal material deposited on the front side of a substrate and at least a portion of another side of the substrate, comprising:

(a) directing a non-etchant fluid onto the material deposited on the front side to substantially prevent dissolution of material on the front side; while simultaneously

(b) dissolving at least a portion of the material deposited on the other side without dissolving the material on the front side.

92. (new) The method of claim 91, wherein directing the fluid onto the material comprises using a chamber adapted to spin and rinse the substrate.

93. (new) The method of claim 91, further comprising processing the substrate with a chamber adapted to spin and rinse the substrate while in-situ dissolving the portion of the deposited material from the backside using an acid.

94. (new) The method of claim 91, further comprising dissolving material deposited on an edge of the substrate.

95. (new) The method of claim 91, further comprising dissolving the deposited material in an edge exclusion zone on the other side of substrate.

96. (new) The method of claim 91, wherein directing the fluid onto the material on the front side comprises rinsing the material on the front side.

97. (new) The method of claim 96, further comprising substantially preventing dissolution of the film on the front side by directing the rinsing fluid

onto the front side at a greater flow rate compared to a flow rate of the dissolving fluid directed onto the other side.

98. (new) A method of removing a film of deposited metal material, comprising:

(a) providing a substrate, wherein the substrate has a first surface and a second surface, wherein one of the surfaces faces upward and further wherein the substrate has the film of deposited metal material on at least the first surface and a portion of unwanted film of deposited material on the second surface; and

(b) providing means for, rotating the substrate while simultaneously:

delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the film on the first surface; and

delivering a dissolving fluid to the second surface without delivering the dissolving fluid to the first surface, thereby removing the material from at least the second surface.

99. (new) A method of removing a metal material deposited on the front side of a substrate and at least a portion of another side of the substrate, comprising simultaneously:

(a) steps for directing a non-etchant fluid onto the material deposited on the front side to substantially prevent dissolution of material on the front side; and

(b) steps for dissolving at least a portion of the material deposited on the other side without dissolving the material on the front side.